



Attributes of highland ecotourism in Northern Peninsular Malaysia: A case study of resident knowledge

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Abstract

Ecotourism is one of the tourism sectors that is becoming popular and has attracted scholars in various fields of studies. This paper highlights residents' perceived knowledge of the ecotourism concept and its particular attributes in the highlands of northern Peninsular Malaysia. The case study was conducted in Gunung Jerai, Gunung Mat Chincang, Kedah, Penang Hill, Penang and Maxwell Hill, Perak involving field surveys of 462 randomly sampled respondents. The residents' knowledge levels of the definition of 'ecotourism' in the study areas were found to be relatively low (below 50%). Demographically, the majority of the respondents were males, below 30 years old with secondary educational background and had been residents for more than 20 years. With respect to dense forests, highlands, falls and rapids as major highland ecotourism destinations in Peninsular Malaysia the majority of the respondents chose recreation and the picturesque scenery as the main attributes of highlands ecotourism. Other highland attributes of cultural diversity, poverty and difficulty of access were not perceived as attributes representing the place identity of the study areas. Instead, planning problems, development control, promotion and environmental deterioration were identified as issues and challenges encountering the development of all northern Peninsular Malaysia ecotourism areas studied. Thus, efforts to enhance the level of knowledge and awareness of highland ecotourism have to be given due attention. All stakeholders including local residents should be more committed and involved in the process.

Keywords: eco-attributes, ecotourism, highlands tourism, knowledge level, local community, place identity

Introduction

In general, ecotourism is a tourism sector which emphasizes environmental attractions. According to Ceballos-Lascurain (1998), ecotourism is the act of travelling or visiting natural areas without disturbing or contaminating the ecosystem while enjoying, appreciating and studying the natural attractions of the flora and fauna in the particular areas, such as the involvement of various cultures; in a process to promote conservation, natural laws and cultural effects, and encourage the participation of the locals in any activity thus bringing socioeconomic benefits to the locals (Rose *et al.*, 2004). Ecotourism aims to conserve nature, reduce the negative effects and benefit the local residents. These attributes distinguish ecotourism from tourism based on nature which might not aim at conservation; tourism based on challenges and adventures which is not related to the concept of conservation or reducing negative effects; and agrotourism based on agriculture, which involves only agricultural products. The weak comprehension is caused by the misuse and broad definition of the term. Misunderstanding of this particular concept may adversely affect tourism as a result of the different expectations among tourists,

tour operators and tourist agencies (National Ecotourism Plan, Malaysia, 1996:9). Ecotourism is an exploration which does not disturb natural areas with the specific objective of studying, admiring and enjoying the scenery and its flora and fauna (Ahmad Puad & Tom Baum, 2005:82). The concept of ecotourism emphasizes tourism activities that fully benefit the attractions of certain destinations which are based on ecology or the natural environment, such as visits to agricultural regions, orchards, forest reserves, recreational forests and caves. It not only contributes to the economy in certain regions, but intensify efforts to conserve the natural environments so that the future generations can enjoy it.

Despite the fact that the tourism sector is still in its initial stage, market analysis shows that it has huge potential in developing countries as they possess various physical attractions that could be developed as ecotourism destinations (Theobald, 1994:262). Highland ecotourism is a renowned ecotourism activity that had caught the attention of domestic and international tourists in Malaysia. Ecotourism in highlands sometimes also offer other physical environmental attributes, such as forest reserves and recreational forests, caves, rivers and so on. Among the highland areas which make up the ecotourism attractions in this country are Gunung Jerai and Gunung Mat Chincang in Kedah, Penang Hill in Penang and Maxwell Hill in Perak.

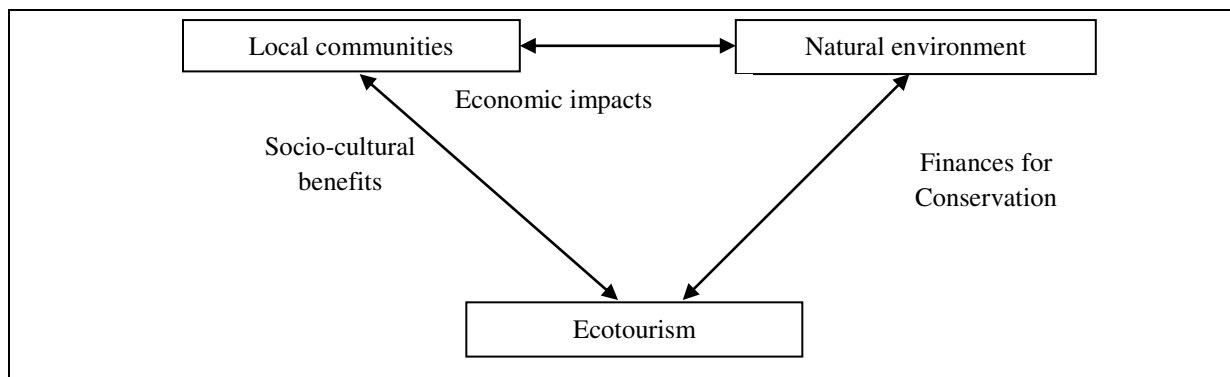
Ecotourism: Conceptual review of literature

According to ecotourism research, several researchers have interpreted the term 'ecotourism' more explicitly. The most referred to definition is the one coined by Lascurain (1988), which states ecotourism as travelling to undisturbed natural areas with the purpose to study and enjoy the beauty of nature, wild plants and animals as well as any existing cultural aspects found in those locations. The World Conservation Union (IUCN) and Thompson (1995), on the other hand, define ecotourism as responsible travel to conserved natural areas to enjoy and appreciate nature (and other cultural elements). Ecotourism encourages conservation and leaves little impact besides benefitting local socioeconomic groups (Badaruddin, 2008:24).

Ever since the 1990s, ecotourism has slowly gained in importance due to the global awareness on environmental issues. In 1996, Malaysia launched the National Ecotourism Plan as a guideline and framework for the development of ecotourism in this country. This plan contains 25 principles that provide the best approaches to ecotourism by considering health and security issues, conservation inputs as well as the participation of both the public and private sectors. During the period of the Seventh Malaysia Plan, several ecotourism projects such as Wang Kelian State Park in Perlis, Bera Lake in Pahang and Kinabatangan Wildlife Sanctuary in Sabah were launched. Since 1990, the tourism industry of Malaysia has developed new sectors, especially ecotourism, where tourists are encouraged to study ways to protect the environment and gain satisfaction if they realize that the money they spend for the preservation and conservation projects is utilized under ecotourism (Chan, 2004:22). The proliferation of ecotourism activities have created various impacts on the economy, environment and social structure. These days, the spotlight on ecotourism's positive impacts towards the economy has begun to shift. Thus, the negative effects of ecotourism towards the environment, for instance over-crowding, pollution and landslide, as well as ecotourism's potential in conserving the environment have caught the eyes of the relevant concerned and interested parties. The rapid and massive development has also exposed ecotourism products to various destruction risks.

According to Eagles (1996), the concept of ecotourism has several principles that enables tourism to achieve its goal. Ecotourism will definitely lead to environmental conservation and benefit the local economy. Apart from that, ecotourism operators, either from the public or private sectors, should enforce an environmental strategy or engage a team of experts in managing environmental issues. The development of the economy and tourism should be sensitive to the cultural aspects and the development of the local communities. Thus, at the same time, ecotourism should be carried out to benefit the local residents from the social and economic aspects, as well as ecologically. Therefore, information

dissemination and high quality services are important. For these to be in place, well-planned management is a must to ensure success over the long term. Therefore, ecotourism and environmental protection require a firm development structure of management to overcome wide-spread explorations in sensitive areas (Eagles, 1996:17). Recently, the ecotourism sector has developed rapidly and has been the main contributor in generating the country's economy. Nevertheless, the development of this sector can bring either positive or negative impacts. If ecotourism continues with diversification and exploits certain areas, it could endanger the culture in that area (Fennell, 1999:103). Figure 1 shows the relationship between ecotourism's impacts on the local communities and the natural environment.



Source: Clifton (2004)

Figure 1. Framework for evaluating the impact of ecotourism

Ecotourism can contribute to the economy in the long term, especially to the local communities due to the well-implemented conservation of natural resources. It benefits the local communities by offering job opportunities, which can directly reduce the high unemployment rate in the local areas (Clifton, 2004:3). The locals adopt ecotourism as an alternative development measure that allows them to enhance their living standards without selling out the natural resources or culture. The local communities can involve themselves in ecotourism operations and provide knowledge, services, facilities and products to tourists. Ecotourism can also generate income to finance conservation, which is beneficial to the society and culture (Newsome *et al.*, 2006:18).

Based on the discussion on ecotourism, there are enormous opportunities for the identified highlands to be developed as tourist destinations in the country. While there are many studies undertaken on highland resources as tourism attraction, little is known on the prospects of highland tourism in developing countries. In Malaysia, highland tourism is regarded as one of the increasing prospects to accelerate growth in the tourism industry (Azima *et al.*, 2012). However, much more needs to be done in order to develop these areas into attractive tourist destinations as well as to create opportunities for the residents to increase their social and economic well-being. Therefore, it is important to highlight the potential of these areas to the residents, while at the same time conserving their natural resources and culture.

Methodology

This study covers Gunung Jerai and Gunung Mat Chincang in Kedah, Maxwell Hill in Perak and Penang Hill in Penang. A total of 462 respondents were selected for this research as shown in Table 1. The research instruments used were a questionnaire survey and interviews. Questions in the survey form included both closed ended and open ended questions. The survey form was used in Bukit Larut (Maxwell Hill), Gunung Jerai, Gunung Mat Chincang and Bukit Bendera (Penang Hill). It was made up

of four parts: Part A - Demographic profile of respondents; Part B - Knowledge about highland ecotourism; Part C - Highland ecotourism development issues and Part D - Highland ecotourism management. The total number of the questionnaire forms distributed was 462. Data collected was analyzed using the Statistical Program for Social Sciences (SPSS) software. The research data is presented in table form for easier comprehension.

Table 1. The number of respondents by study areas

| Study Area | Number of Respondents |
|-----------------------------|-----------------------|
| Bukit Larut (Maxwell Hill) | 76 |
| Gunung Jerai | 146 |
| Gunung Mat Chincang | 160 |
| Bukit Bendera (Penang Hill) | 80 |
| Total | 462 |

Area of study

Gunung Mat Chincang

Gunung Mat Chincang is 700 metres above sea level. It is believed that the rock formations in this mountain are made up of the oldest rocks formed around 240 million years ago in Malaysia. These rocks

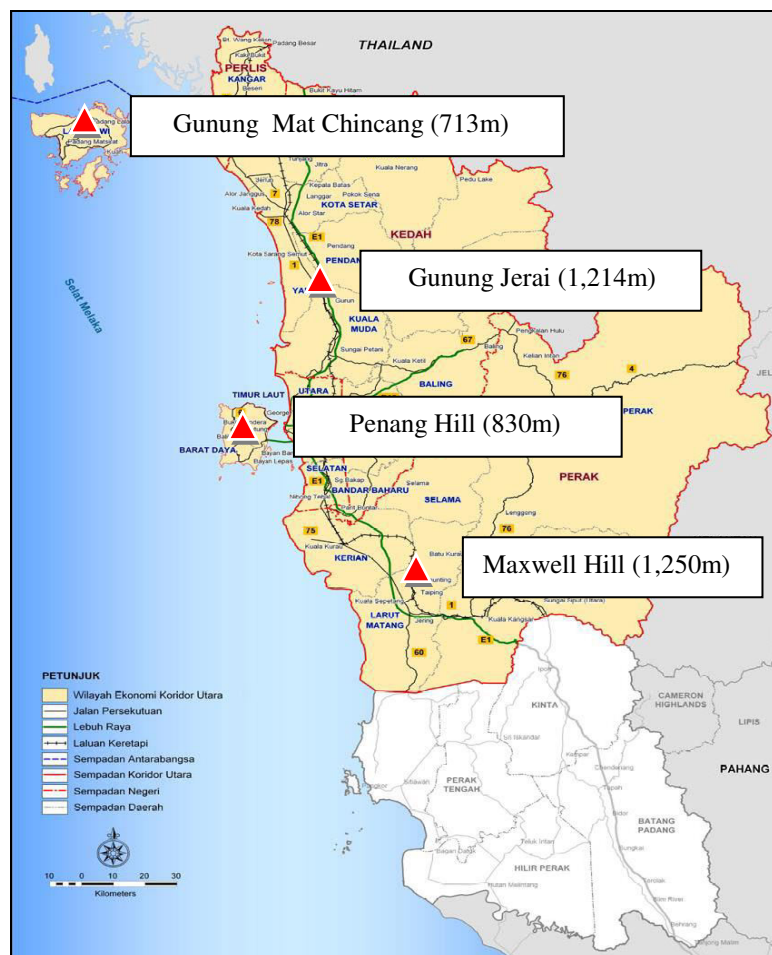


Figure 2. Locations of the study areas in Northern Peninsular Malaysia

are also made up of sandstone, mudstone and conglomerate rocks. The main attraction of Gunung Mat Chincang is the cable car service which connects Oriental Village in Teluk Kurau with Gunung Mat Chincang. This is the longest cable car ride in the world, spanning a distance of 2.2 km. It was endorsed by the Malaysia Book of Records as the Longest Free Span Single Rope Cable Car in Malaysia. Furthermore, this cable car has two stations along the journey to provide opportunities for visitors to stop in the middle of the journey or continue to reach the peak of the ride. There is a platform at a height of 713 metres from sea level, specially built to enable visitors to enjoy a panoramic view of the Langkawi Islands. On the other side at the top, there is a curved hanging bridge constructed from iron and steel that connects this mountain with another mountain beside it.

Gunung Jerai

Gunung Jerai is also known as Kedah Peak. This mountain is located in Kedah, at the border between Kuala Muda and Yan. The peak of Gunung Jerai is about 15km away from Gurun and 43km from Alor Setar. It is a part of the Jerai Reserved Forest with an area of 8676.36 hectares (Yan Local Plan Technical Report 2006-2020). There are several tourist attractions in Mount Jerai, which include the Appliances Kenari Year 1000 (main hiking trail to reach the peak of Gunung Jerai) and the Tupah Recreational Forest in the Jerai Reserved Forest. The falls which flow from the peak of Gunung Jerai is suitable for bathing, picnics, recreational and group activities. Moreover, there are also colonial styled chalets constructed of wood, tropical floras and faunas such as the Hydrangea and Pitcher plants. Ancient monumental structures like Batu Kapal, Padang Tok Syekh, Air Terjun Alur Naga and Telaga Tok Syekh are also found in these areas.

Penang Hill

Penang Hill is located in the district of Ayer Itam, Penang. It is a region of high relief surrounded by hills. The position of Penang Hill is at a latitude of N5°22.45' and a longitude of E100°16.05'. The district of Ayer Itam is contiguous to the districts of George Town, Gelugor, Balik Pulau, Teluk Bahang, Batu Feringghi, Tanjung Bungah and Tanjung Tokong. Among the tourist attractions in Penang Hill are the Penang Hill Funicular Railway, Suspension Bridge, Bird Sanctuary, Indian temple and mosque, Tea Kiosk, bungalows with British colonial architecture, Strawberry Garden, Bel Retiro, Gate House, Hotel Old Crag, Richmond, Fernhill, Big Lomonol, Little Lomonol, Bellevue Hotel, Top Station, Viewing Gallery, Hillside, Canopy Walk, Southview, Saint Beinasal, Methodist Centre, Arun Angri, Woodside, Cottage, Mountain Road Great Wall, Roclies, Grace Dieu, Karangan Cat, Trek Jip, botanical gardens, panoramic view of Penang from Penang Hill and tropical flora.

Maxwell Hill

Maxwell Hill is located in Taiping, Perak. This area is known as the wettest place in the whole of Malaysia. Maxwell Hill was named after George Maxwell, a British resident of Perak in the year 1880. This highland is the oldest highland resort centre in Malaysia. The tourist attractions that are found here include the colourful (red, pink, white and violet) tulip plantations, bungalows built during British colonization such as The Cottage (the residence of the first British Resident, J.W.W. Birch), Maxwell Rest House, Watson Bungalows, The Federal Bungalows, The Hut, Treacher Bungalows, The Box, The Speedy Rest House, Tea Garden and tea farmer barracks which previously served as a hospital during World War II.

Findings and discussion

Respondents' profiles

The research findings in Table 2 indicate that the majority of the 462 respondents are males. The breakdown is as follows: 45 respondents from Maxwell Hill, 74 from Gunung Jerai, 58 from Gunung Mat Chincang and 50 from Penang Hill. There are 31 female respondents from Maxwell Hill, 72 from Gunung Jerai, 102 from Gunung Mat Chincang and 30 from Penang Hill. For the age criterion, the majority of the respondents are in the ages ranging from 21 to 30 years old, comprising 35.5% of the respondents in Maxwell Hill, 41.9% in Gunung Mat Chincang and 27.5% in Penang Hill. However, a majority (39.9%) of the respondents in Gunung Jerai are below 20 years old. The research findings show that generally, the educational background of the respondents are secondary school level, comprising 50 people in Maxwell Hill, 72 in Gunung Jerai, 92 in Gunung Mat Chincang and 45 in Penang Hill. More than 30% of the respondents have resided in the research areas for more than 20 years; the percentages being 42.1% in Maxwell Hill, 35.6% in Gunung Jerai and 52.5% in Penang Hill. In contrast, when comparing the duration of residence with other places, 33.8% of the residents have been staying in Gunung Mat Chincang for only 1-5 years. The educational background and the duration of respondents can be used to measure their perceptions on their knowledge about the attractions of highland ecotourism in those study areas.

Table 2. Respondents' profiles by study areas

| Characteristics | Criteria | Maxwell Hill | | Gunung Jerai | | Gunung Mat Chincang | | Penang Hill | |
|--|--------------|--------------|------|--------------|------|---------------------|------|-------------|------|
| | | N | (%) | N | (%) | N | (%) | N | (%) |
| Gender | Male | 45 | 59.2 | 74 | 50.7 | 58 | 36.2 | 50 | 64.9 |
| | Female | 31 | 40.8 | 72 | 49.3 | 102 | 63.8 | 30 | 35.1 |
| Age (in years) | Below 20 | 23 | 30.3 | 59 | 39.9 | 63 | 39.4 | 10 | 12.5 |
| | 21-30 | 27 | 35.5 | 36 | 24.3 | 67 | 41.9 | 22 | 27.5 |
| | 31-40 | 10 | 13.2 | 20 | 13.5 | 11 | 6.8 | 15 | 18.8 |
| | 41-50 | 9 | 11.8 | 12 | 8.1 | 15 | 9.4 | 12 | 15.0 |
| | Above 50 | 7 | 9.2 | 18 | 12.2 | 4 | 2.5 | 21 | 26.2 |
| | | | | | | | | | |
| Educational Background | Tertiary | 23 | 30.3 | 61 | 41.8 | 63 | 39.4 | 22 | 27.5 |
| | Secondary | 50 | 65.8 | 72 | 49.3 | 92 | 57.5 | 45 | 56.3 |
| | Primary | 3 | 3.9 | 11 | 7.5 | 4 | 2.5 | 13 | 16.2 |
| | Informal | 0.0 | 0.0 | 2 | 1.4 | 1 | 0.6 | 0.0 | 0.0 |
| Duration of Residence (in years) | 1-5 | 20 | 26.3 | 36 | 24.7 | 54 | 33.8 | 18 | 22.5 |
| | 6-10 | 6 | 7.9 | 12 | 8.2 | 12 | 7.5 | 9 | 11.2 |
| | 11-15 | 2 | 2.6 | 14 | 9.6 | 17 | 10.6 | 8 | 10.0 |
| | 16-20 | 16 | 21.1 | 32 | 21.9 | 29 | 18.1 | 3 | 3.8 |
| | More than 20 | 32 | 42.1 | 52 | 35.6 | 48 | 30.0 | 42 | 52.5 |

Respondents' level of knowledge

The research findings show that the residents' level of knowledge of the definition of 'ecotourism' in the study areas is relatively low, represented positively by 42.1% in Maxwell hill, 31.5% in Gunung Jerai, 45.6% and 43.7% for Gunung Mat Chincang and Penang Hill respectively. Certain concepts pertaining to this problem on the level of knowledge has been researched by Ohe (2008). His research findings concluded that only 44.7% of the respondents know the meaning of 'homestay' when they were questioned, even though it is a flourishing sector in that particular country.

Table 3. Comparison of respondents' level of knowledge towards the definition of ecotourism

| Research Location(s) | Yes | | No | |
|-----------------------------|-----|------|-----|------|
| | N | (%) | N | (%) |
| 1. Maxwell Hill [MH] | 32 | 42.1 | 44 | 57.9 |
| 2. Gunung Jerai [GJ] | 46 | 31.5 | 100 | 68.5 |
| 3. Gunung Mat Chincang [GM] | 73 | 45.6 | 87 | 54.4 |
| 4. Penang Hill [PH] | 35 | 43.7 | 45 | 56.3 |

Referring to Table 4, it is found that the majority of the respondents agreed that the highland is the main attraction for ecotourism in Maxwell Hill and Penang Hill, with scores of 75% and 76.3% respectively, whereas respondents in Gunung Jerai (81.5%) and Gunung Mat Chincang (72.5%) chose falls and rapids as the main attraction for ecotourism. However, less than 20% of the respondents stated that grasslands, lakes or ponds, and limestone caves as ecotourism attributes in Maxwell Hill, Gunung Jerai and Penang Hill. For Gunung Mat Chincang, the botanical gardens (38.1%), limestone caves (36.2%) and grasslands (29.4%) are not the main tourist attractions.

Table 4. Level of knowledge towards ecotourism attractions in study areas

| Attractions | MH | | GJ | | GM | | PH | |
|----------------------|----|-------|-----|------|-----|------|----|------|
| | N | (%) | N | (%) | N | (%) | N | (%) |
| 1. Forests | 51 | 67.1 | 117 | 79.1 | 108 | 67.5 | 52 | 65.0 |
| 2. Highlands | 57 | 75.0 | 100 | 68.5 | 99 | 61.9 | 61 | 76.3 |
| 3. Grasslands | 16 | 21.1 | 42 | 28.8 | 47 | 29.4 | 22 | 27.5 |
| 4. Wildlife | 37 | 48.7 | 90 | 61.6 | 71 | 44.4 | 37 | 46.3 |
| 5. Rivers | 50 | 65.78 | 99 | 67.8 | 89 | 55.6 | 26 | 32.5 |
| 6. Botanical Gardens | 36 | 47.4 | 69 | 47.3 | 61 | 38.1 | 49 | 61.3 |
| 7. Falls and Rapids | 55 | 72.4 | 119 | 81.5 | 116 | 72.5 | 35 | 43.8 |
| 8. Limestone Caves | 6 | 7.9 | 28 | 19.2 | 58 | 36.2 | 6 | 7.5 |
| 9. Lakes / Ponds | 33 | 43.4 | 45 | 30.8 | 63 | 39.4 | 14 | 17.5 |
| 10. Orchards | 22 | 28.9 | 100 | 68.5 | 69 | 43.1 | 39 | 48.8 |

Table 5 shows the comparison of respondents' level of knowledge and sensitivity towards highland attributes in the study areas. Generally, recreation is perceived as the main attribute in the highland areas

Table 5. Level of knowledge towards highlands attributes in study areas

| Highland Attributes | MH | | MJ | | MM | | PH | |
|--------------------------------|----|------|-----|------|-----|------|-----|------|
| | n | (%) | n | (%) | n | (%) | n | (%) |
| 1. Recreation | 63 | 82.9 | 131 | 88.5 | 135 | 84.4 | 72 | 90.0 |
| 2. Challenging experience | 42 | 55.3 | 93 | 62.8 | 85 | 53.1 | 32 | 40.0 |
| 3. Wildlife diversity | 43 | 56.6 | 99 | 66.9 | 85 | 53.1 | 38 | 47.5 |
| 4. Cultural diversity | 31 | 40.8 | 32 | 21.6 | 52 | 32.5 | 31 | 38.8 |
| 5. Difficulty of access | 18 | 23.7 | 53 | 35.8 | 32 | 20.0 | 13 | 16.3 |
| 6. Easily destroyed ecosystem | 12 | 15.8 | 56 | 37.8 | 28 | 17.5 | 23 | 28.8 |
| 7. Insufficient infrastructure | 23 | 30.3 | 80 | 54.1 | 39 | 24.4 | 23 | 28.8 |
| 8. Lack of service | 24 | 31.6 | 75 | 50.7 | 35 | 21.9 | 28 | 35.0 |
| 9. Environmental deterioration | 18 | 23.7 | 66 | 44.6 | 41 | 25.6 | 18 | 22.5 |
| 10. Protected area | 37 | 48.7 | 79 | 53.4 | 79 | 49.4 | 35 | 43.8 |
| 11. Scenery | 54 | 71.1 | 118 | 79.7 | 126 | 78.8 | 53 | 66.3 |
| 12. Small-scale business | 33 | 43.4 | 95 | 64.2 | 86 | 53.8 | 45 | 56.3 |
| 13. Poverty | 7 | 9.2 | 25 | 16.9 | 0.0 | 0.0 | 0.0 | 0.0 |

studied, with scores of 82.9% in Maxwell Hill, 88.5% in Gunung Jerai, 84.4% in Gunung Mat Chincang and 90% in Penang Hill. Most of the respondents in all the four study areas stated that environmental deterioration, difficulty of access, lack of service, insufficient infrastructure, damaged ecosystem and cultural diversity are not the highlands attributes in Maxwell Hill, Gunung Jerai, Gunung Mat Chincang and Penang Hill. This shows that the level of knowledge of the respondents towards ecotourism and highlands attributes are excellent. The research findings also exhibit that a positive awareness exists among the locals towards highland ecotourism. Nonetheless, the local governments with the aid of the mass media and non-government organizations should take initiatives to ensure that information regarding ecotourism, especially its definition and concept, filters down to the society at large.

Issue and challenges in the development of highlands ecotourism in Northern Malaysia

Planning has been the main hindrance in building up the highlands' reputation as ecotourism destinations in the country. Even though the tourism sector in the highlands developed concurrently with the development of tourism at the national level, tourism in these areas is rather vague in terms of development plan preparation, especially with regard to the local or regional plans (Jabil et al., 2008:118). Recently, rapid development in highland areas has caused various problems, among them the identification of development control and work control in these areas. Rapid development without systematic and efficient planning can affect and destroy the ecological system in that particular area. Most of the development has destroyed the original environment in highland areas. For instance, Maxwell Hill was once rich with its flora and fauna species. Thus, land use planning and development control are the main challenges in promoting the tourism sector in highlands. In Cameron Highland, the farming methods used is another issue that has to be considered to ensure sustainability (Ati Rosemary et al., 2014). It has been highlighted that agriculture that permits the use of fertilizers, pesticides and unsystematic agricultural practices, are factors that contribute to the degradation of environmental quality in highland areas (Yee & Chan, 2006). Kunasekaran et al. (2011) reported that agrotourism itself when not done in the correct manner can lead to air pollution, that mass development will increase temperatures and that the use of agricultural pesticides and fertilizers will lead to environmental pollution.

Efforts to turn potential areas into ecotourism destinations could be realized through the participation of the government or private sector (Clifton, 2004:2). To maintain the identity and increase the reputation of an ecotourism area, good management is important. The problems existing in that area should be recognized to avoid negative effects. Promotion is one of the important aspects in attracting people to visit certain tourism destinations. According to Yoeti (1988), promotion aims to influence potential consumers or the mediators through communication so that they are always reminded of the matter published. Weak and limited promotion and publicity have resulted in Gunung Jerai, for instance, to be less visited by visitors and tourists. The public's exposure to the attractions in Gunung Jerai is rather low due to the lack of information in the printed media as well as at places frequented by the general public. This had indirectly made Gunung Jerai less popular among the community.

Mohmadisa and Mohamad Suhaily (2005) stated that development nowadays, concurrently with the development of ecological tourism has created problems to the environment. This is a result of the rapid development of recreational areas and resorts that have caused environmental problems like pollution. Excess refuse disposal by visitors has altered the soil nutrient status and this has led to ecological destruction. Garbage from tourism areas left by tourists and visitors should also be given due and immediate attention before this problem becomes critical as exemplified by what is now taking place in tourism beaches and other tourism destinations. This issue is supported by Socher (1976) who stated that in Nepal, 6,000 people visited that country in 1962 and this number increased to 10,000 in 1975. Consequently, garbage was scattered on hiking trails, paths and campsites.

In Malaysia, several legal obligations are mandated and also organizations are assigned to protect the environment. However, the implementation is still unsatisfactory. For example, there was a case that

occurred in Gunung Mat Chincang where the flora and fauna in the highland area was destroyed despite frequent control and monitoring from the relevant authority. Thus, serious implementation of legislation plays an important role in controlling the continuous development and destruction of the environment. In concordance with the ideas and suggestions issued by the World Conservation Union (IUCN) and Thompson (1995), the concept of ecotourism is responsible travel to preserved natural areas in order to enjoy and conserve the nature and the existing cultures. Therefore, it is the joint responsibilities of the residents, visitors and tourists to nurture and conserve the ecology and surroundings of Gunung Mat Chincang (Ku Muhammad Hussaini et al., 2009:8).

Conclusion

In conclusion, the research conducted in Mount Jerai, Mount Mat Chincang, Maxwell Hill and Penang Hill shows that the residents' level of knowledge is relatively low in terms of understanding the definition of 'ecotourism'. However, they have a far better comprehension of the types of ecotourism and highland attributes. The resident's level of knowledge in certain areas is low because there is no particular module which can educate the local residents about the effects of ecotourism development (Walker, 1996). Awareness of the effects of ecotourism development can be measured by the comprehension of the community involved of the positive and negative effects of tourism development. Continuous efforts to turn the tourist community into a more knowledgeable community in terms of ecotourism activities will enable easy access for information on ecotourism. Therefore, efforts to enhance the knowledge and awareness of highland tourism is an agenda that needs to be given urgent consideration in Malaysia. To achieve this, all parties should be more committed, open and involved collectively without neglecting the role and the participation of the local residents which are often ignored in highland ecotourism development.

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